

PATENT ABSTRACTS OF JAPAN

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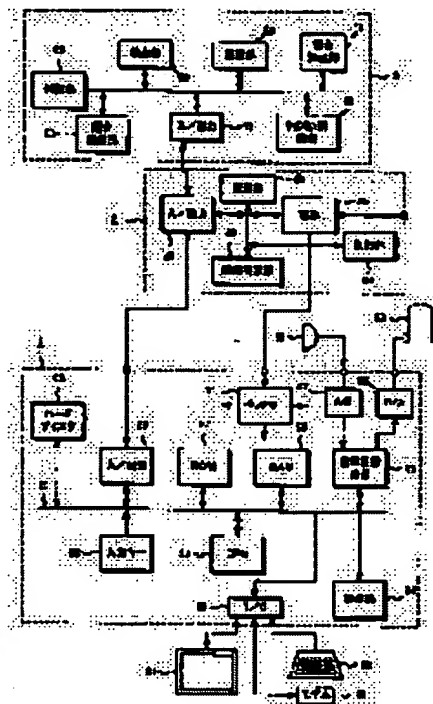
UCHIUMI YOSHIMASA

(54) INFORMATION DISTRIBUTION SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent the disadvantage of a user by canceling an account processing in the case down-loading is interrupted by an incorrect operation or the like while down-loading prescribed information after the user performs the account processing.

SOLUTION: A portable terminal 1 is mounted to a receiver 2 and the request information of a data base menu stored in the storage part 59 of a desired transmitter 3 is transmitted. The transmitter 3 detects data corresponding to the request information in a retrieval part 60 and sends them through the input/output part 24 of the receiver 2 to the terminal 1. At this point, when the receiver 2 automatically confirms the mounting of the terminal 1 in a mounting discrimination part 40, the account processing part 42 of the transmitter 3 starts the transmission of the data after performing a prescribed account processing and the terminal 1 is turned to a down-loading state. When the user incorrectly releases the mounting during down-loading, the mounting discrimination part 40 sends a release signal to the transmitter 3 and starts a timer, and when counting passes prescribed time, the transmitter 3 cancels the processing of the account processing part 42 by an account cancellation part 58.



LEGAL STATUS

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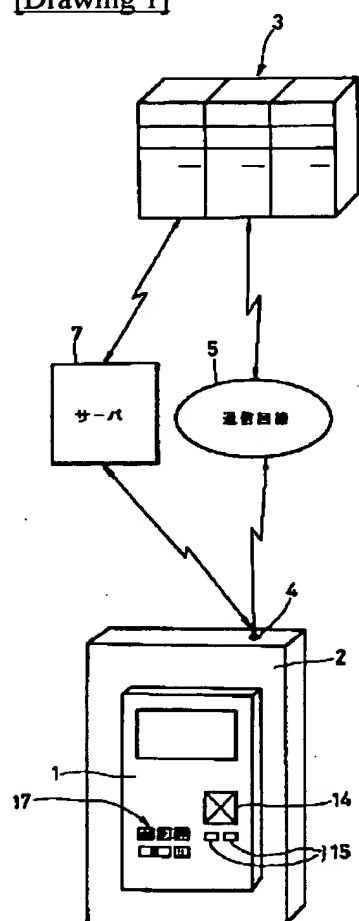
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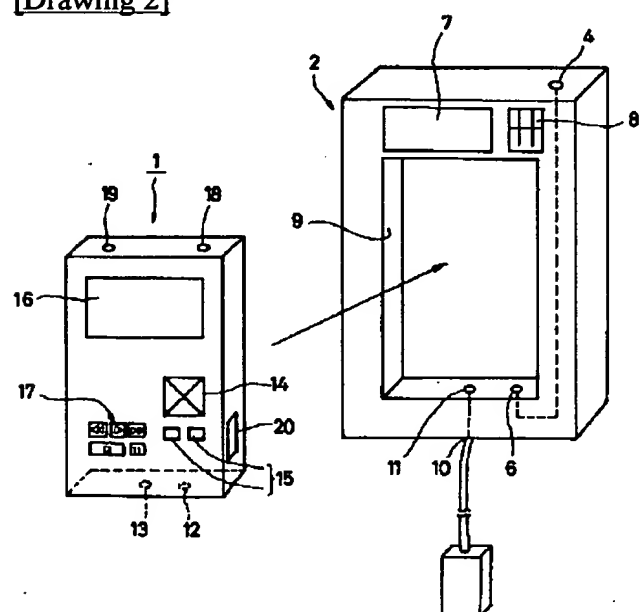
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DRAWINGS

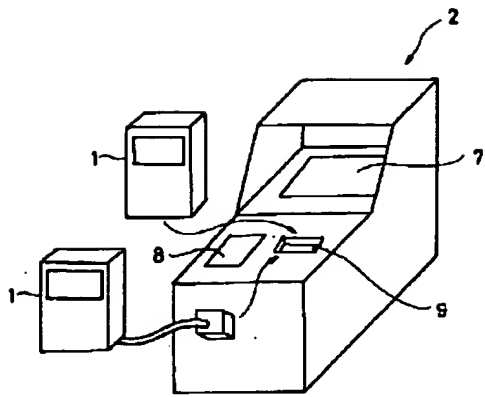
[Drawing 1]



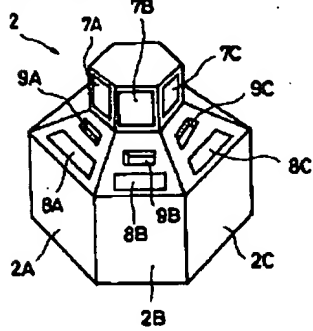
[Drawing 2]



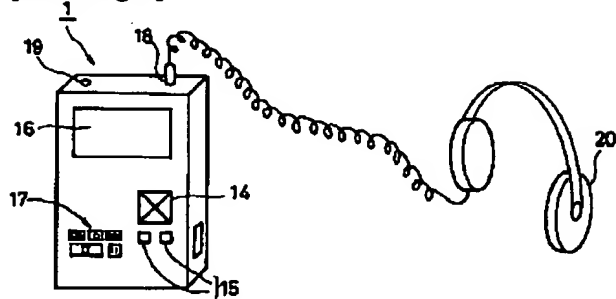
[Drawing 3]



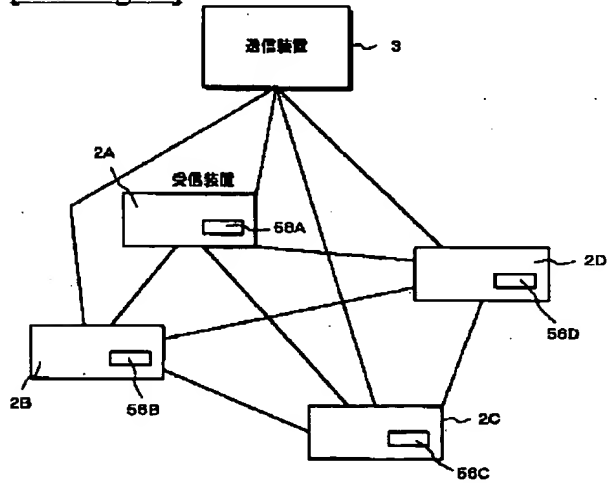
[Drawing 4]



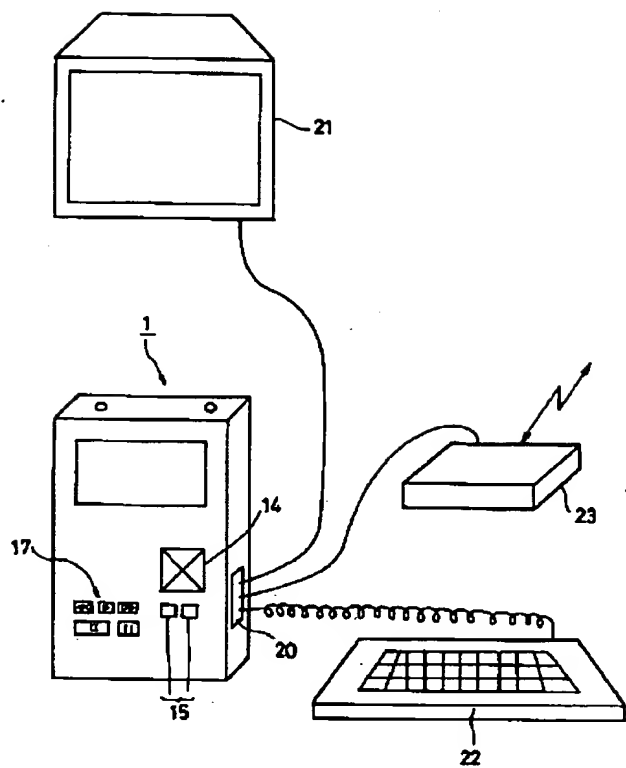
[Drawing 5]



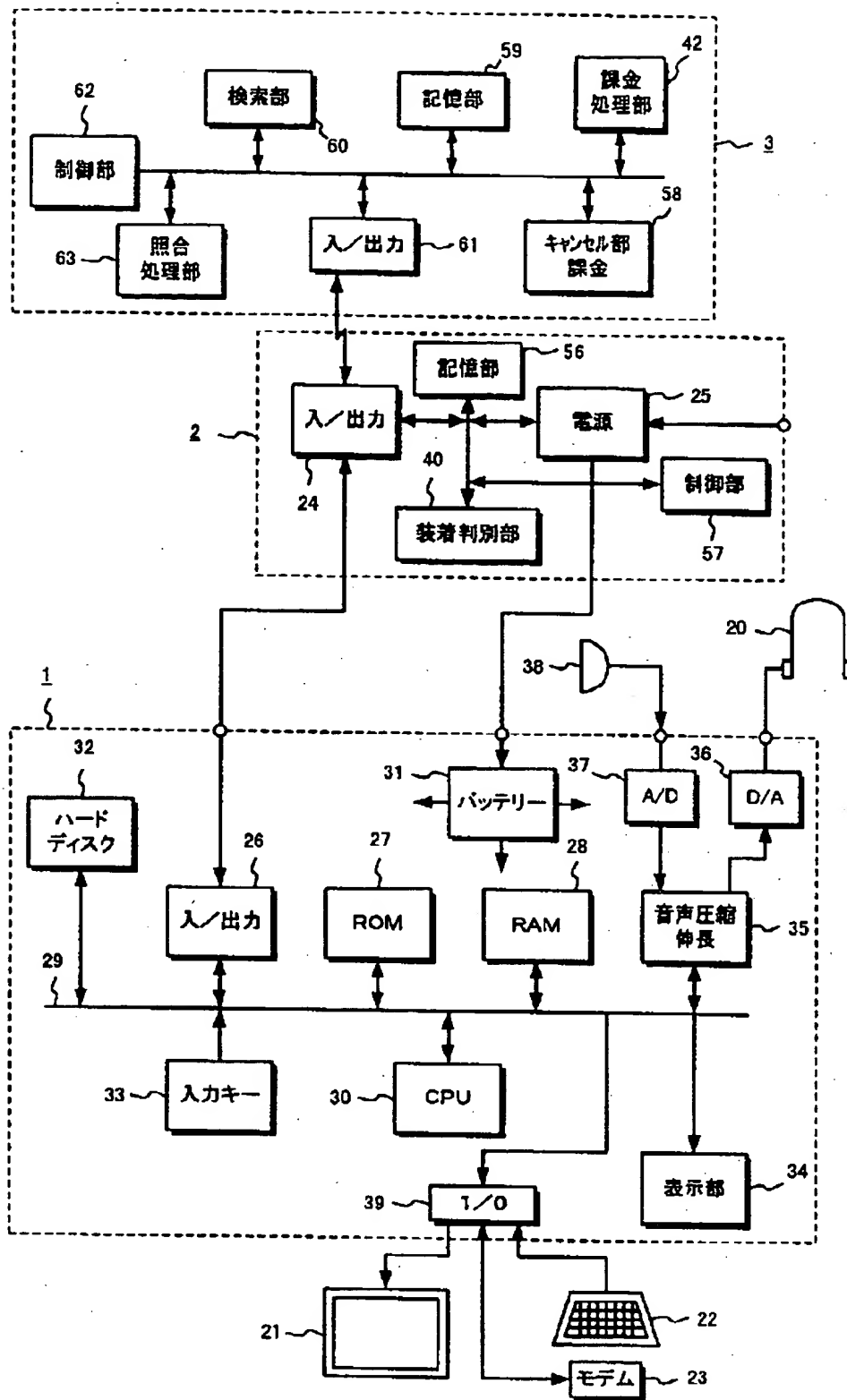
[Drawing 10]



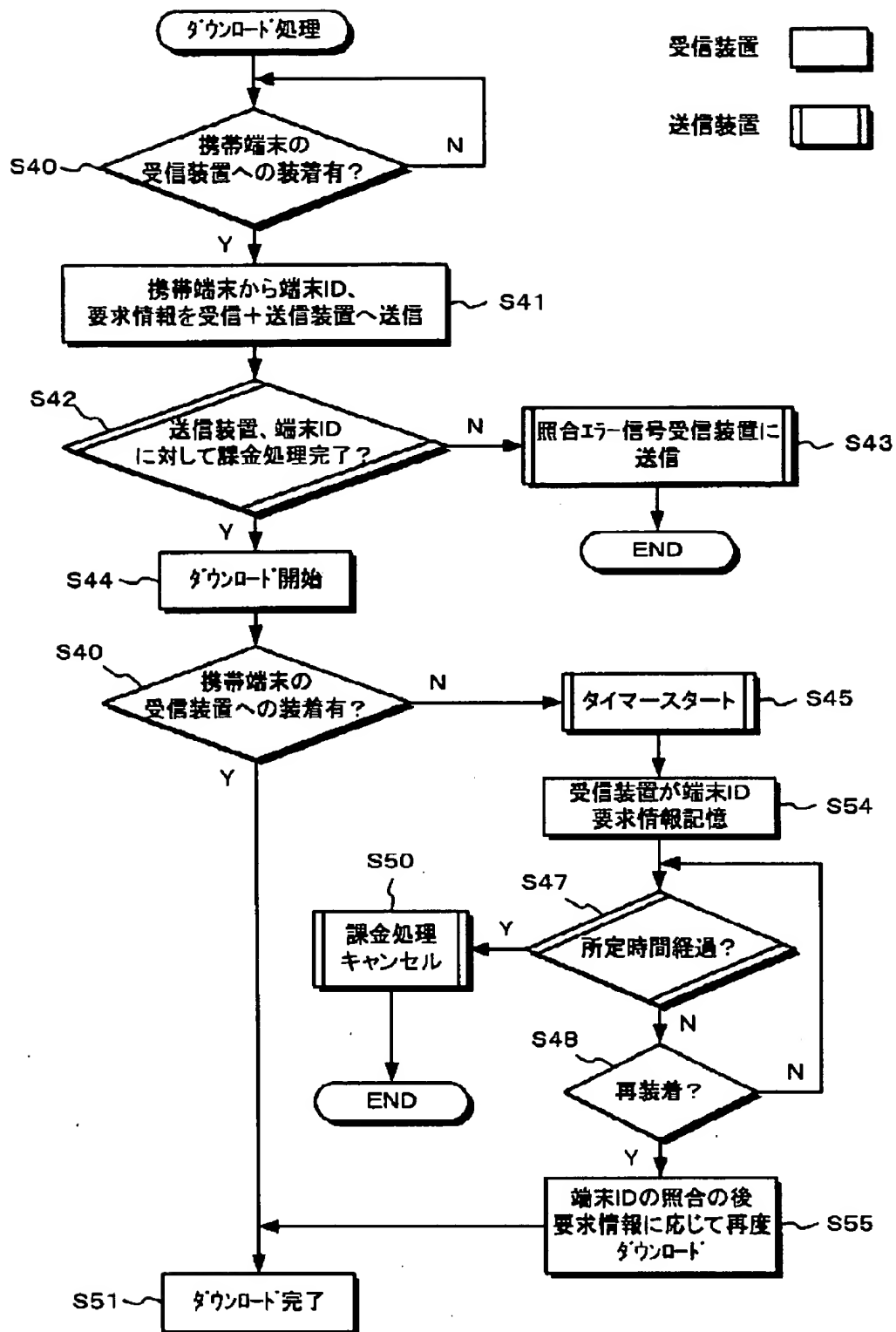
[Drawing 6]



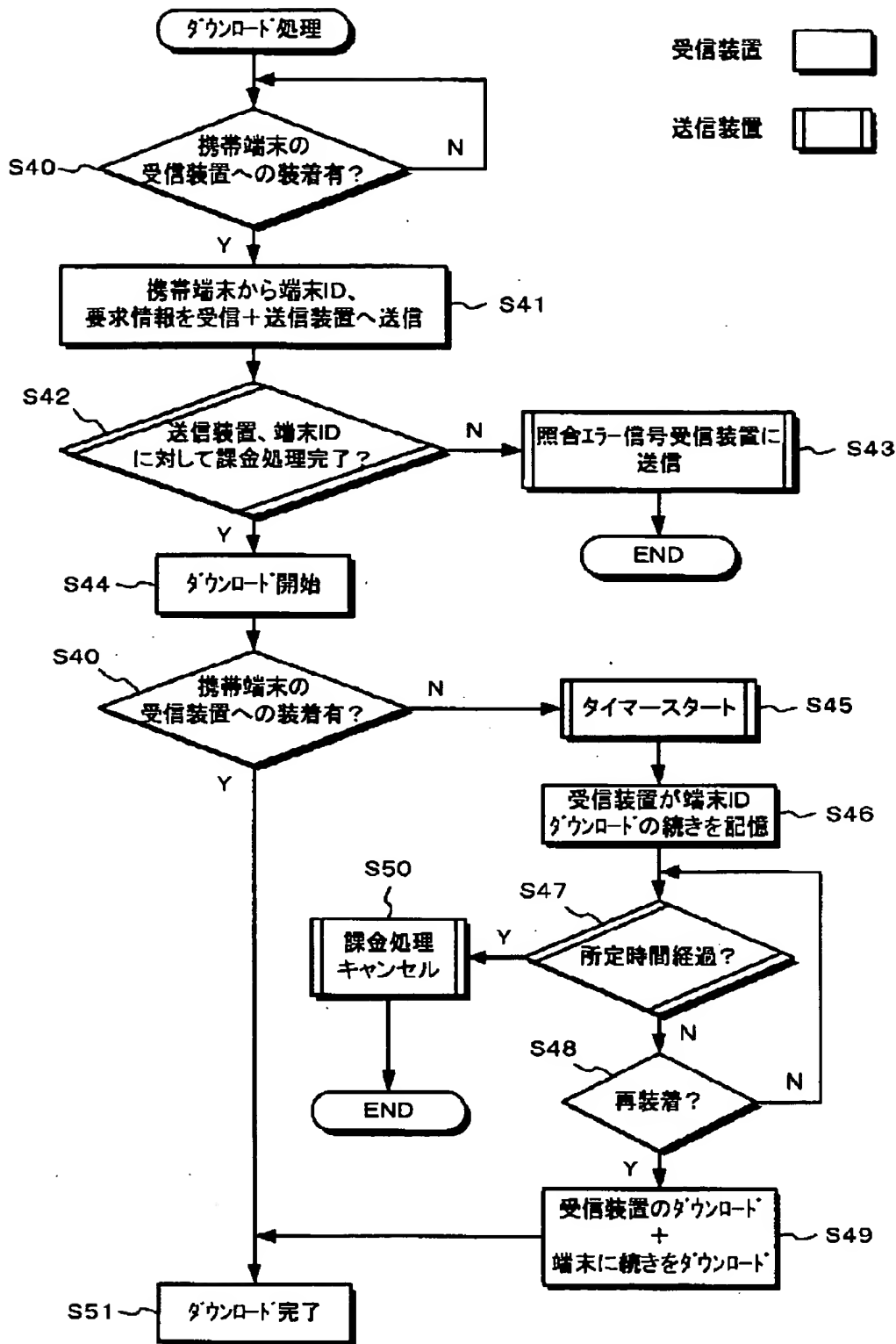
[Drawing 7]



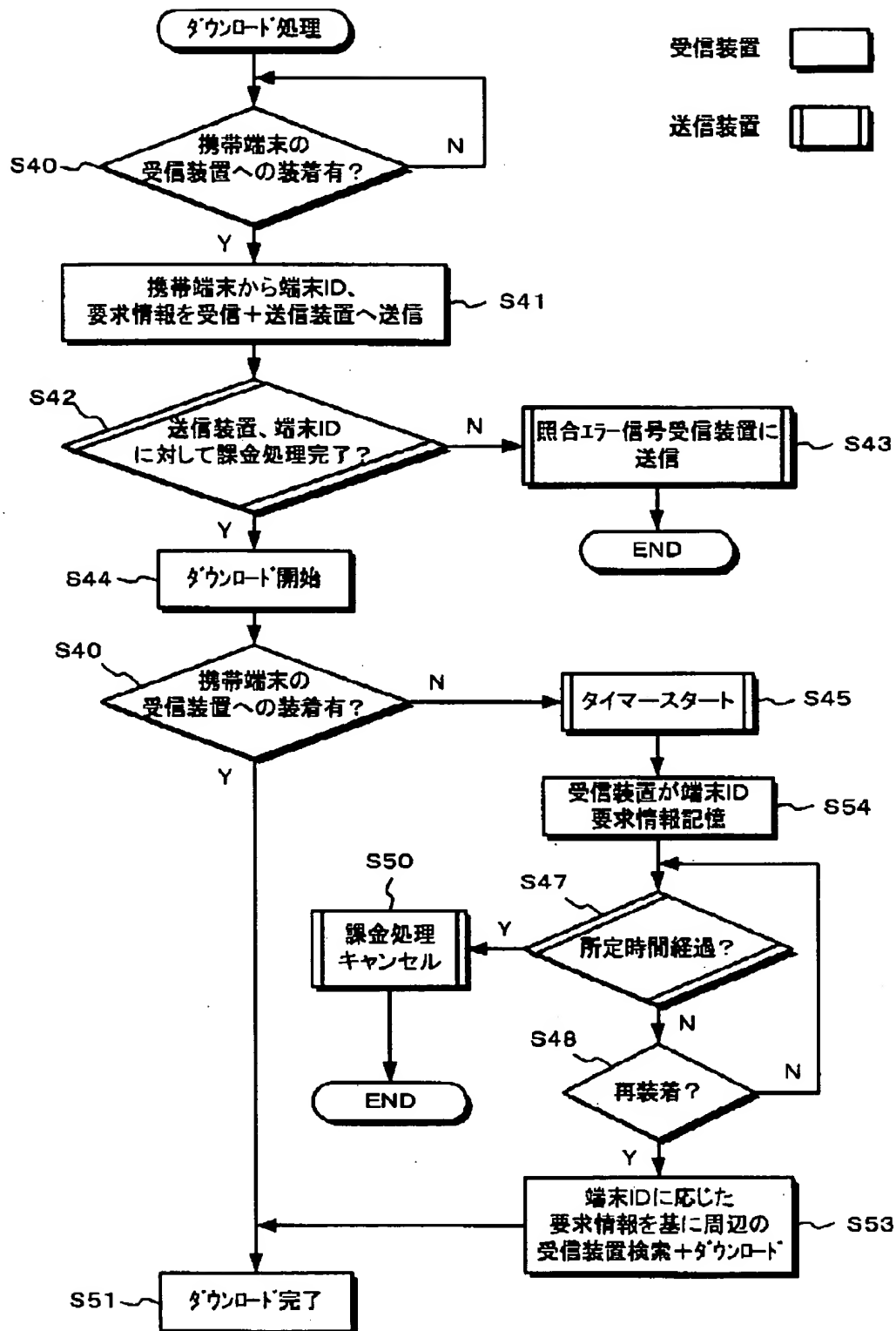
[Drawing 8]



[Drawing 9]



[Drawing 11]



[Translation done.]

PRIOR ART

[Description of the Prior Art] Conventionally, the online karaoke system is known as an information distribution system. By such online karaoke system, it is accumulated in the sending set karaoke data and whose image data are hosts in a database format, and at least one or more sets of receiving sets are connected to the sending set by the telephone line etc. The method of specifying the data wished to have when a user operates the control unit which data download periodically to the buffer memory prepared in a receiving set from a sending set as the distribution approach of data, or is prepared in a receiving set side, transmitting to a sending set side, and transmitting data to a receiving set from a sending set according to the demand is learned.

[Translation done.]

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

TECHNICAL FIELD

[Field of the Invention] It is concerned with an information distribution system, information is distributed to at least one or more receiving sets from the sending set with which information is accumulated especially, and this invention relates to the information distribution system which enabled it to copy information to a terminal unit from a receiving set further.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] It is concerned with an information distribution system, information is distributed to at least one or more receiving sets from the sending set with which information is accumulated especially, and this invention relates to the information distribution system which enabled it to copy information to a terminal unit from a receiving set further.

[0002]

[Description of the Prior Art] Conventionally, the online karaoke system is known as an information distribution system. By such online karaoke system, it is accumulated in the sending set karaoke data and whose image data are hosts in a database format, and at least one or more sets of receiving sets are connected to the sending set by the telephone line etc. The method of specifying the data wished to have when a user operates the control unit which data download periodically to the buffer memory prepared in a receiving set from a sending set as the distribution approach of data, or is prepared in a receiving set side, transmitting to a sending set side, and transmitting data to a receiving set from a sending set according to the demand is learned.

[0003]

[Problem(s) to be Solved by the Invention] However, in such an online karaoke system, it does not have the function with it to copy the data to the personal digital assistant which contained the media which are record media, or a record medium in the receiving set side.

[0004] Moreover, although it is easy to only prepare the Rhine out used as an output in a receiving set, and to copy to a record medium, if such a function is prepared, the user using online karaoke will copy the karaoke data to demand to record media, such as an optical disk and an IC memory, easily, and can own them, and the problem that protection of the copyright of the karaoke data cannot be aimed at produces him.

[0005] Therefore, it is needed to make accounting give a user to the download of data to such a record medium. Disadvantageous profit that that copy of data was not able to come to hand although protecting the copyright of data by granting the right which receives download service of data only in the user whom this accounting completed performed accounting when it seemed that the user might make the midst which the possible place has downloaded after completing accounting in this case interrupt download accidentally may arise.

[0006] Therefore, the purpose of this invention is to offer the information distribution system it was made for disadvantageous profit not to produce to a user as canceled accounting, when download is interrupted by a user's operation mistake etc. and the copy of perfect information is not made during download of the information on the request after a user performs accounting.

[0007] Other purposes of this invention are to offer the information distribution system which can perform download possible [the restart of that download], still quicker, and positive, when download is interrupted by a user's operation mistake etc. during download of the information on the request after a user performs accounting.

[0008]

[Means for Solving the Problem] In order to solve such a technical problem then, this invention The terminal downloaded to the record medium in which the information which outputs the information specified by a user as demand information, and is inputted according to it is built, a terminal, and I/O are possible. The receiving set outputted to a terminal while a user inputs the demand information specified at a terminal, transmits the demand information at least and receives the information according to it, a receiving set, and transmission and reception are possible. The sending set which transmits the information to a receiving set while two or more information is accumulated in a mass record medium, receiving the demand information inputted by the user through a receiving set and retrieving the information over this demand information, The accounting section which transmitted the information according to demand information to the receiving set only when accounting according to the demand information prepared in a sending set was performed to a user and the accounting was processed normally, The download interruption distinction section which distinguishes that this download was interrupted while the information transmitted from the sending set corresponding to the demand information prepared in a receiving set downloaded to the terminal through the receiving set, The accounting cancellation section which cancels the accounting to the user to whom it was given by the accounting means when it carried out predetermined time progress that download was interrupted by the download interruption distinction section prepared in a sending set after it was distinguished, A preparation ***** distribution system is offered.

[0009] It is made for disadvantageous profit not to arise to a user by canceling accounting, when download is interrupted by a user's operation mistake etc. and the copy of perfect information is not made during download of the information on the request after a user performs accounting.

[0010] Moreover, when download is interrupted by a user's operation mistake etc. during download of the information on the request after a user performs accounting, the restart of the download is possible, and it is recorded on the record medium of a receiving set, and if download is resumed, the information further received with the receiving set after the time of interruption of download being distinguished is constituted so that it may download from a receiving set to a terminal.

[0011] Moreover, if demand information is recorded on a receiving set and download is resumed when interruption of download is distinguished, as it downloads from the receiving set expected that communication link time amount is the shortest among the receiving sets which demand information is transmitted to other receiving sets, and have the information on desired, still quicker and positive download will be enabled.

[0012]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing. First, drawing 1 shows the system about this invention. The record medium with which, as for a sending set 3, mass data are stored in drawing 1, for example, a hard disk, It has the optical disk etc. Means of communications 5, for example, ISDN, (trademark) (Integrated services digital network) CATV (Cable Television, Community Antenna Television), The demand information from a user is received through the communication lines 5, such as a communication satellite and the telephone line, the information specified by the demand information is retrieved from a mass record medium, and the information is transmitted to a receiving set 2 through a communication line 5.

[0013] When a receiving set 2 receives this information and outputs to a personal digital assistant 1, it is the system which can copy the information on desired to the record medium built in a personal digital assistant 1, for example, a hard disk, an optical disk, an IC memory, etc. and which realizes the so-called data on demand. As data here, audio information, text information, image information, image information, etc. can be considered, for example.

[0014] As shown in drawing 7, a sending set 3 has at least the storage section 59 which stores mass data, and the retrieval section 60 which searches desired data from the data stored in the storage section 59. Although the magnetic tape used for the current device for broadcast as the storage section 59 is considered, in order to realize the function on demand which is one of the system features of these, the hard disk in which random access is possible, an IC memory, an optical disk, a magneto-optic disk, etc.

are desirable. The whole control is performed by the control section 62.

[0015] As a communication line 5 used for information distribution from a sending set 3, ISDN, CATV, a communication satellite, the telephone line, a wireless communication link, etc. can be considered. In order to perform on demand one, two-way communication is required, but since it becomes the communication link of only an one direction, two or more kinds of communication lines 5 of using other communication lines 5 in others and the direction may be used together in the existing communication satellite.

[0016] Moreover, since costs not only start infrastructures, such as connection of a circuit with all the receiving sets 2 from a sending set 3, but [in order to transmit direct information to a receiving set 2 by the communication line 5 from a sending set 3,] demand information overconcentrates on a sending set 3 and data are transmitted to each receiving set 2 according to it, a load may be applied to a sending set 3.

[0017] Then, as the server 7 which stores data temporarily is formed between a sending set 3 and a receiving set 2, you may enable it to download saving of circuit length and the information which downloads predetermined data beforehand to the server 7, and is demanded only by the data communication with a server 7. The whole control is performed by the control section 57.

[0018] The personal digital assistant 1 in which desorption is possible is shown in drawing 2 thru/or drawing 6 to a receiving set 2 and a receiving set 2.

[0019] As for a receiving set 2, what has the control unit 8 for being allotted to the stand at each station, a convenience store, a public telephone, each home, etc., and choosing a display 7 and the information on desired like a game machine and the applied part 9 which equips with a personal digital assistant 1 further is desirable.

[0020] Here, in order to reduce the functions of a receiving set 2 by using the control unit of a personal digital assistant 1, and a display, it is not necessary to form a display 7 and a control unit 8. The applied part 9 is equipped with the input/output terminal 6 to which a receiving set 2 and a personal digital assistant 1 perform information I/O, and the power supply terminal 11 connected [power source / 10 / which charges a personal digital assistant 1 automatically by equipping with a personal digital assistant 1].

[0021] Although desorption is possible for the whole principal plane of a personal digital assistant 1 to a receiving set 2 in the gestalt of this operation, that what is necessary is just what can perform I/O by the side of a receiving set 2, and current supply, it may be elongated from a personal digital assistant 1, and the current supply line and information input output line which have a small applied part at the base of a personal digital assistant 1, a side face, or a tip may be equipped with a small applied part by the receiving set 2.

[0022] For example, as shown in drawing 3 , while a display 7 and a control unit 8 are formed in a receiving set 2, the personal digital assistant applied part 9 is formed. carrying out direct continuation of the personal digital assistant 1 to the personal digital assistant applied part 9 -- or informational I/O and supply of a power source are performed by connecting a personal digital assistant 1 to the personal digital assistant applied part 9 through a cable.

[0023] Moreover, it is ***** to access by two or more users having each personal digital assistant 1 to one receiving set 2. One receiving set 2 is divided into two or more block 2A, 2B, 2C, and -- in the example shown in drawing 4 . Each block 2A, 2B, 2C, and -- are equipped with the personal digital assistant applied parts 9A, 9B, and 9C and --, respectively, while Displays 7A, 7B, and 7C, -- and control units 9A, 9B, and 9C, and -- are prepared. In such a receiving set 2, personal digital assistants 1A, 1B, and 1C and -- can be connected to each block 2A, 2B, 2C, each personal digital assistant applied parts 9A, 9B, and 9C in --, and --, and one receiving set 2 can be used by two or more users.

[0024] As mentioned above, while the dc-battery built in a personal digital assistant 1 by carrying out current supply from a power supply terminal 13 automatically by equipping a receiving set 2 by the predetermined approach is charged, the are recording information menu with which a user is outputted to a display 16 is chosen by the selection key 14, and the information is downloaded while uploading the demand information determined by the decision key 15 through an input/output terminal 12. Here, a

selection key and a decision key can simplify an actuation system more, if a jog dial called decision by a selection and press of a jog is used by rotation of a jog.

[0025] After being warned of this download termination by the display 7 of a receiving set 2, or the display 16 grade of a personal digital assistant 1, a user can display or output the information recorded on that personal digital assistant 1 always anywhere by removing a personal digital assistant 1 from a receiving set 2. Under the present circumstances, that display and an output are controllable by the keys 17 of operation, such as a rapid traverse formed in the personal digital assistant 1, playback, rewinding, a halt, and a halt.

[0026] Moreover, it has the microphone terminal 19 so that not only the information on the request which downloaded the phones jack 18 used when hearing audio information through headphone 20, as shown in drawing 5, and the information accumulated in a sending set 3 by the further predetermined communication line through the receiving set 2 but a user may be used as memorandum **. This personal digital assistant 1 can be used also as a memorandum ** machine by adding a sound recording key to the above-mentioned key of operation.

[0027] Moreover, as shown in drawing 6, it has the connector 20 which can connect a display 21, a keyboard 22, a modem 23, or a terminal adopter 23 to a personal digital assistant 1. It becomes possible by connecting a display to output the video data downloaded to the personal digital assistant 1.

[0028] Moreover, it not only makes selection of the information to demand easy, but more complicated command input becomes possible by connecting a keyboard 22. Moreover, since a sending set 3 and immediate-data communication are not only attained, but other computers or a personal digital assistant 1, and communication are attained not using a receiving set 2 by connecting a modem 23 or a terminal adopter 23, users' data exchange etc. can be performed easily.

[0029] Moreover, it is also possible to perform easily to use a wireless connection controller for instead of [these], and to make wireless connection of a sending set 3 and the personal digital assistant 1.

[0030] Next, actuation of the whole system is explained using the block diagram of the receiving set 2 about this invention, and a personal digital assistant 1, and drawing 7 using drawing 7.

[0031] In drawing 7, CPU30 is formed in a personal digital assistant 1. From this CPU30, a bus 29 is drawn and ROM27, RAM28, and a hard disk 32 are connected to a bus 29. Demand information is stored in ROM27 or RAM28 by choosing the information on desired from the database menu accumulated in a sending set 3. The downloaded information is stored in a hard disk 32. Moreover, the speech compression expanding circuit 35 which performs speech compression, such as an input key 33, a display 34, the input-and-output section 26 that output and input data between receiving sets 2, and ATRAC, and expanding processing is established in a personal digital assistant 1. Moreover, a display 21, a keyboard 22, a modem, or a terminal adopter 23 is connectable with a personal digital assistant 1 through I/O Port 39. Moreover, a power source is supplied to a personal digital assistant 1 from a dc-battery 31.

[0032] While receiving the data from a sending set 3, the input-and-output section 24 for sending the demand information from a personal digital assistant 1 is formed in a receiving set 2. Actuation of a receiving set 2 is controlled by the control section 57. Moreover, the power circuit 25 for supplying a power source to the dc-battery 31 of a personal digital assistant 1 is established in a receiving set 2. Furthermore, the wearing distinction section 40 for checking whether the receiving set 2 is equipped with the personal digital assistant 1 is formed in the receiving set 2. You may make it this wearing distinction section 40 detect with a mechanical switch whether the personal digital assistant 1 is put on the personal digital assistant applied part 9 of a receiving set 2, and may make it detect electrically whether the receiving set 2 and the personal digital assistant 1 are connected. Moreover, it communicates between the control section 57 of a receiving set 2, and CPU30 of a personal digital assistant 1, and you may make it check connection.

[0033] It has the retrieval section 60 in which a sending set 3 retrieves the information on desired from the storage section 59 using the storage section 59 in which mass data are stored, and the demand information from a user, and the input-and-output section 61 which output and input data among receive sections 2. The actuation by the whole sending set 3 is controlled by the control section 62. Moreover,

when a user is going to download data, the collating processing section 63 which performs collating for checking whether you are the user of normal, and the accounting section 42 which performs accounting corresponding to demand information are formed in a sending set 3. furthermore – that the Dow-Jones load goes wrong **** – etc. – in order to carry out the fee of the condition disadvantageous to the caused user, accounting is prepared in the accounting cancellation section 42 of ** of a cancellation sake.

[0034] When a user chooses the information on desired from the database menu accumulated in the sending set 3 memorized by ROM27 or RAM28 using the input key 33 of a personal digital assistant 1, demand information is stored in RAM28. While a receiving set 2 is connected with a sending set 3 by the predetermined communication line through the input-and-output section 24 by equipping the applied part 9 of a receiving set 2 with this personal digital assistant 1, it connects with the bus 29 of a personal digital assistant 1 through the input-and-output section 26 of a personal digital assistant 1 through the same input-and-output section 24.

[0035] Thereby, the demand information stored in RAM28 is controlled by CPU30 connected to a bus 29, and is automatically transmitted to a sending set 3 through the input-and-output section 24.

[0036] In a sending set 3, the demand information is inputted from the input-and-output section 61, the data according to it are searched by the retrieval section 60 from the storage section 59 (mass hard disk), and the ****(ed) data transmit to a receiving set 2. Control of these whole is performed by the control section 62.

[0037] Moreover, since it is necessary to record two or more data on this storage section 59, it is desirable to carry out digital compression. Although various technique (trademark), such as ATRAC (Adaptive Transform Acoustic Coding), and ATRAC2, TwinVQ (Transform domain Weighted Interleave Vector Quantization), can be considered as the compression approach, it is good if it is the compression technique which can be thawed by the receiving set 2 side.

[0038] About the transmission protocol at the time of transmission, it may be packet-ized by TCP/IP (Transmission control protocol/internet protocol) which is general-purpose at an original protocol or the Internet, and data transmission of may be done.

[0039] This transmit information is outputted to the input-and-output section 26 of a personal digital assistant 1, while that of a receiving set 2 is received by the input-and-output section 24. It is constituted so that automatic battery charge may be performed to the dc-battery 31 which a power supply terminal 11 and the power supply terminal 13 by the side of a personal digital assistant 1 are connected by the power circuit 25 by the side of a receiving set 2, and is built in a personal digital assistant 1 with wearing to the receiving set 2 of a personal digital assistant 1 using the time amount required between reception of the information on desired from transmission of this demand information.

[0040] Decomposition processing of packet data is made, and the information inputted into a personal digital assistant 1 from the input-and-output section 26 is recorded on a hard disk 32 while required condensed information is extracted. Termination of download of the information on this request outputs a download termination display to the display 7 prepared in the receiving set 2, or the display 34 prepared in the personal digital assistant 1.

[0041] A user removes from a personal digital assistant 1 and a receiving set 2, after checking this download termination display, and he will be in the condition that it can carry freely.

[0042] Information to reproduce first from the information list currently recorded on the hard disk 32 by the input key 33 is chosen and determined to reproduce the information which the user downloaded. Then, from a hard disk 32, the condensed information is read, and it is sent to a compression expansion circuit 35, and is elongated. This elongated data is changed into analog information by D/A converter 36, and is outputted from headphone 29.

[0043] When recording a sound signal from a microphone 38, from an input key 33, a sound recording signal is outputted, and the sound signal from a microphone 38 is digitized by A/D converter 37 from this, and it is further compressed by the compression expansion circuit 35 by the predetermined compression approach, and is recorded on a hard disk 32 through a bus 29. Thus, it is constituted so that a user can use it also as a memorandum ** machine.

[0044] Connection of a display 21, a keyboard 22, a modem, or a terminal adopter 23 is enabled through I/O Port 39 at the personal digital assistant 1. It also becomes possible by connecting a display to output the video data downloaded to the personal digital assistant 1, alphabetic data, etc. by the big screen. On this display 21, CRT, TFT liquid crystal, a plasma display, etc. can be considered, and if the liquid crystal display of a head mount mold is used, a print-out can be seen while a user moves.

[0045] It not only makes selection of the information to demand easy, but by connecting a keyboard 22, more complicated command input becomes possible. Since it also becomes easy from this for a user to input an utterance, information, etc. as text, if the User Information is uploaded to a sending set 3, the conference room as a place of request collection of a user or information interchange of users etc. can also be offered.

[0046] Furthermore, since a sending set 3 and immediate-data communication are not only attained, but other computers or a personal digital assistant 1, and communication are attained not using a receiving set 2 by connecting a modem or a terminal adopter 23, users' data exchange etc. can be performed easily. If a cellular phone etc. is used, demand information can be disseminated to a sending set 3 always anywhere, and it can just become on demand.

[0047] Moreover, it is also possible to perform easily to use a wireless connection controller for instead of [these], and to make wireless connection of a sending set 3 and the personal digital assistant 1.

[0048] Next, with reference to drawing 8, the processing flow of the gestalt of operation of this invention is explained. As mentioned above, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41). (step S40)

[0049] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42). Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established.

[0050] If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44). The wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and if wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45). With a receiving set 2, the Terminal ID and demand information are memorized for the record means 56 of memory 56 grade with it (step S54). By the delivery collating processing section 63, the count of a timer will perform collating processing for a signal to a sending set 3 side based on the terminal ID, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48).

[0051] Although the count of a timer is still continued at the time of a collating error, if it clears, according to the demand information corresponding to the terminal ID memorized by the memory 56 of a receiving set 2, predetermined data will be downloaded to a personal digital assistant 1 (step S55).

[0052] Although Terminal ID and demand information were memorized to the receiving set 2 with the gestalt of this operation here, it memorizes by the storage section 59 of a sending set 3, and you may make it manage. Also in the example mentioned later, it is the same.

[0053] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part 9 temporarily, in spite of performing accounting, there is a possibility of causing a condition disadvantageous to the user of not offering download service to a user.

[0054] Then, the personal digital assistant 1 separated from the applied part, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the accounting cancellation section 58 prepared in (step S47) and a sending set 3.

[0055] That is, since it enables it to cancel accounting when download is not completed completely that the user has completed accounting under a certain situation, it has the effectiveness according to rank that a user can receive service in comfort.

[0056] When a personal digital assistant 1 is removed from the applied part 9 of a receiving set 2 during download, he is trying to download data again in an above-mentioned example, but it is good even if it downloads from a continuation to the already downloaded data. Drawing 9 is such an example.

[0057] As mentioned above, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41). (step S40)

[0058] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42). Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established. If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44).

[0059] If the wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45).

[0060] Download is continued to a receiving set 2, writing the data received at the same time a wearing discharge signal occurs with a receiving set 2 with it in the storage section 56 (step S46). It is desirable to make it data to memorize Terminal ID as a header etc. at this time, and to enable it to perform matching with data and Terminal ID.

[0061] The count of a timer will perform collating processing to the terminal ID by the collating processing section 63 prepared in a sending set 3, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48). Although the count of a timer is still continued at the time of a collating error, the data of a from are downloaded to a personal digital assistant 1 while having corresponded to the terminal ID memorized by the storage section 56 of a receiving set 2, when cleared (step S49).

[0062] It is desirable, when the increase in efficiency of download is attained as download to a personal digital assistant 1 is also performed while the download to the storage section 56 of a receiving set is still continuing and continuing the download, when re-equipped here.

[0063] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part temporarily, in spite of performing accounting, there is a possibility of causing a condition disadvantageous to the user of not offering download service to a user.

[0064] Then, the personal digital assistant 1 separated from the applied part 9, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the accounting cancellation section 58 prepared in (step S47) and a sending set 3.

[0065] In addition, in the above-mentioned example, although the receiving set 2 has always downloaded data from the sending set 3, as shown in drawing 10, two or more receiving set 2A, 2B,

and -- are connected with the sending set 3. And the newest information, the information that request frequency is high, etc. are periodically sent to each receiving set 2A, 2B, 2C, and -- from a sending set 3, and it is possible to make it download to each receiving set 2A, 2B, 2C, and --. Each receiving set 2A, 2B, 2C, and the data sent to -- are stored in each receiving set 2A, 2B, 2C, and the storage section 56 of --.

[0066] With such a configuration, receiving set 2A, 2B, 2C, and the same data as -- are stored. in this case, for example, receiving set 2A -- a down -- when a funnel goes wrong, receiving set 2A can download surrounding receiving set 2B, 2C, and the data from --, without downloading data from a sending set 3.

[0067] Drawing 11 is the example which always did not download data from a sending set 3 in this way when download went wrong by receiving set 2A, but downloaded data from surrounding receiving set 2B, 2C, and -- when desired data were in surrounding receiving set 2B, 2C, and --.

[0068] In the flow of drawing 10, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant (step S40) 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41).

[0069] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42).

[0070] Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established. If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44).

[0071] The wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and if wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45). With a receiving set 2, the Terminal ID and demand information are memorized for the record means 56 of memory 56 grade with it (step S54). By the delivery collating processing section 63, the count of a timer will perform collating processing for a signal to a sending set 3 side based on the terminal ID, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48).

[0072] Next, although the count of a timer is still continued at the time of a collating error Demand information is transmitted to each receiving set 2 connected to mutual as shows the demand information corresponding to the terminal ID memorized by the storage section 56 of a receiving set 2 if the collating is cleared to drawing 11. The receiving set 2 considered for communication link time amount to be the shortest out of other receiving sets 2 with which the data equivalent to demand information are memorized is selected, and download is started from the receiving set 2. The factor of a distance geographical as criteria of this selection, the traffic condition of a circuit, the size of a circuit, etc. can be considered (step S53).

[0073] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part temporarily, in spite of performing accounting, there is a possibility of causing a condition disadvantageous to the user of not offering download service to a user.

[0074] Then, the personal digital assistant 1 separated from the applied part 9, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the accounting cancellation section 58 prepared in (step S47) and a sending set 3.

[0075]

[Effect of the Invention] Although it is possible to protect the copyright of data by granting the right which receives download service of data only in the user whom accounting completed to the information as which the user demanded download, the information distribution system which is this invention If it seems that a user may make the midst downloaded after completing accounting interrupt download accidentally, the disadvantageous profit to the user that the copy of data was not able to come to hand although accounting was performed may arise. Then, when download was interrupted by a user's operation mistake etc. and the copy of perfect information was not made during download of the information on the request after a user performs accounting in the invention in this application, it was made for disadvantageous profit not to arise to a user, as accounting is canceled.

[0076] Moreover, when download is interrupted by a user's operation mistake etc. during download of the information on the request after a user performs accounting in invention of claims 2 and 3, the restart of the download is possible, and it is recorded on the record medium of a receiving set, and if download is resumed, the information further received with the receiving set after the time of interruption of download being distinguished is constituted so that it may download from a receiving set to a terminal. Moreover, if demand information is recorded on a receiving set and download is resumed when interruption of download is distinguished, as it downloads from the receiving set expected that communication link time amount is the shortest among the receiving sets which demand information is transmitted to other receiving sets, and have the information on desired, still quicker and positive download will be offered.

[Translation done.]

MEANS

[Means for Solving the Problem] In order to solve such a technical problem then, this invention The terminal downloaded to the record medium in which the information which outputs the information specified by a user as demand information, and is inputted according to it is built, a terminal, and I/O are possible. The receiving set outputted to a terminal while a user inputs the demand information specified at a terminal, transmits the demand information at least and receives the information according to it, a receiving set, and transmission and reception are possible. The sending set which transmits the information to a receiving set while two or more information is accumulated in a mass record medium, receiving the demand information inputted by the user through a receiving set and retrieving the information over this demand information, The accounting section which transmitted the information according to demand information to the receiving set only when accounting according to the demand information prepared in a sending set was performed to a user and the accounting was processed normally, The download interruption distinction section which distinguishes that this download was interrupted while the information transmitted from the sending set corresponding to the demand information prepared in a receiving set downloaded to the terminal through the receiving set, The accounting cancellation section which cancels the accounting to the user to whom it was given by the accounting means when it carried out predetermined time progress that download was interrupted by the download interruption distinction section prepared in a sending set after it was distinguished, A preparation ***** distribution system is offered.

[0009] It is made for disadvantageous profit not to arise to a user by canceling accounting, when download is interrupted by a user's operation mistake etc. and the copy of perfect information is not made during download of the information on the request after a user performs accounting.

[0010] Moreover, when download is interrupted by a user's operation mistake etc. during download of the information on the request after a user performs accounting, the restart of the download is possible, and it is recorded on the record medium of a receiving set, and if download is resumed, the information further received with the receiving set after the time of interruption of download being distinguished is constituted so that it may download from a receiving set to a terminal.

[0011] Moreover, if demand information is recorded on a receiving set and download is resumed when interruption of download is distinguished, as it downloads from the receiving set expected that communication link time amount is the shortest among the receiving sets which demand information is transmitted to other receiving sets, and have the information on desired, still quicker and positive download will be enabled.

[0012]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained with reference to a drawing. First, drawing 1 shows the system about this invention. The record medium with which, as for a sending set 3, mass data are stored in drawing 1, for example, a hard disk, It has the optical disk etc. Means of communications 5, for example, ISDN, (trademark) (Integrated services digital network) CATV (Cable Television, Community Antenna Television), The demand information from a user is received through the communication lines 5, such as a communication satellite and the telephone line, the information specified by the demand information is retrieved from a mass record medium, and the information is transmitted to a receiving set 2 through a communication line 5.

[0013] When a receiving set 2 receives this information and outputs to a personal digital assistant 1, it is the system which can copy the information on desired to the record medium built in a personal digital assistant 1, for example, a hard disk, an optical disk, an IC memory, etc. and which realizes the so-called data on demand. As data here, audio information, text information, image information, image information, etc. can be considered, for example.

[0014] As shown in drawing 7, a sending set 3 has at least the storage section 59 which stores mass data, and the retrieval section 60 which searches desired data from the data stored in the storage section 59. Although the magnetic tape used for the current device for broadcast as the storage section 59 is considered, in order to realize the function on demand which is one of the system features of these, the

hard disk in which random access is possible, an IC memory, an optical disk, a magneto-optic disk, etc. are desirable. The whole control is performed by the control section 62.

[0015] As a communication line 5 used for information distribution from a sending set 3, ISDN, CATV, a communication satellite, the telephone line, a wireless communication link, etc. can be considered. In order to perform on demand one, two-way communication is required, but since it becomes the communication link of only an one direction, two or more kinds of communication lines 5 of using other communication lines 5 in others and the direction may be used together in the existing communication satellite.

[0016] Moreover, since costs not only start infrastructures, such as connection of a circuit with all the receiving sets 2 from a sending set 3, but [in order to transmit direct information to a receiving set 2 by the communication line 5 from a sending set 3,] demand information overconcentrates on a sending set 3 and data are transmitted to each receiving set 2 according to it, a load may be applied to a sending set 3.

[0017] Then, as the server 7 which stores data temporarily is formed between a sending set 3 and a receiving set 2, you may enable it to download saving of circuit length and the information which downloads predetermined data beforehand to the server 7, and is demanded only by the data communication with a server 7. The whole control is performed by the control section 57.

[0018] The personal digital assistant 1 in which desorption is possible is shown in drawing 2 thru/drawing 6 to a receiving set 2 and a receiving set 2.

[0019] As for a receiving set 2, what has the control unit 8 for being allotted to the stand at each station, a convenience store, a public telephone, each home, etc., and choosing a display 7 and the information on desired like a game machine and the applied part 9 which equips with a personal digital assistant 1 further is desirable.

[0020] Here, in order to reduce the functions of a receiving set 2 by using the control unit of a personal digital assistant 1, and a display, it is not necessary to form a display 7 and a control unit 8. The applied part 9 is equipped with the input/output terminal 6 to which a receiving set 2 and a personal digital assistant 1 perform information I/O, and the power supply terminal 11 connected [power source / 10 / which charges a personal digital assistant 1 automatically by equipping with a personal digital assistant 1].

[0021] Although desorption is possible for the whole principal plane of a personal digital assistant 1 to a receiving set 2 in the gestalt of this operation, that what is necessary is just what can perform I/O by the side of a receiving set 2, and current supply, it may be elongated from a personal digital assistant 1, and the current supply line and information input output line which have a small applied part at the base of a personal digital assistant 1, a side face, or a tip may be equipped with a small applied part by the receiving set 2.

[0022] For example, as shown in drawing 3, while a display 7 and a control unit 8 are formed in a receiving set 2, the personal digital assistant applied part 9 is formed. carrying out direct continuation of the personal digital assistant 1 to the personal digital assistant applied part 9 -- or informational I/O and supply of a power source are performed by connecting a personal digital assistant 1 to the personal digital assistant applied part 9 through a cable.

[0023] Moreover, it is ***** to access by two or more users having each personal digital assistant 1 to one receiving set 2. One receiving set 2 is divided into two or more block 2A, 2B, 2C, and -- in the example shown in drawing 4. Each block 2A, 2B, 2C, and -- are equipped with the personal digital assistant applied parts 9A, 9B, and 9C and --, respectively, while Displays 7A, 7B, and 7C, -- and control units 9A, 9B, and 9C, and -- are prepared. In such a receiving set 2, personal digital assistants 1A, 1B, and 1C and -- can be connected to each block 2A, 2B, 2C, each personal digital assistant applied parts 9A, 9B, and 9C in --, and --, and one receiving set 2 can be used by two or more users.

[0024] As mentioned above, while the dc-battery built in a personal digital assistant 1 by carrying out current supply from a power supply terminal 13 automatically by equipping a receiving set 2 by the predetermined approach is charged, the are recording information menu with which a user is outputted to a display 16 is chosen by the selection key 14, and the information is downloaded while uploading the

demand information determined by the decision key 15 through an input/output terminal 12. Here, a selection key and a decision key can simplify an actuation system more, if a jog dial called decision by a selection and press of a jog is used by rotation of a jog.

[0025] After being warned of this download termination by the display 7 of a receiving set 2, or the display 16 grade of a personal digital assistant 1, a user can display or output the information recorded on that personal digital assistant 1 always anywhere by removing a personal digital assistant 1 from a receiving set 2. Under the present circumstances, that display and an output are controllable by the keys 17 of operation, such as a rapid traverse formed in the personal digital assistant 1, playback, rewinding, a halt, and a halt.

[0026] Moreover, it has the microphone terminal 19 so that not only the information on the request which downloaded the phones jack 18 used when hearing audio information through headphone 20, as shown in drawing 5, and the information accumulated in a sending set 3 by the further predetermined communication line through the receiving set 2 but a user may be used as memorandum **. This personal digital assistant 1 can be used also as a memorandum ** machine by adding a sound recording key to the above-mentioned key of operation.

[0027] Moreover, as shown in drawing 6, it has the connector 20 which can connect a display 21, a keyboard 22, a modem 23, or a terminal adopter 23 to a personal digital assistant 1. It becomes possible by connecting a display to output the video data downloaded to the personal digital assistant 1.

[0028] Moreover, it not only makes selection of the information to demand easy, but more complicated command input becomes possible by connecting a keyboard 22. Moreover, since a sending set 3 and immediate-data communication are not only attained, but other computers or a personal digital assistant 1, and communication are attained not using a receiving set 2 by connecting a modem 23 or a terminal adopter 23, users' data exchange etc. can be performed easily.

[0029] Moreover, it is also possible to perform easily to use a wireless connection controller for instead of [these], and to make wireless connection of a sending set 3 and the personal digital assistant 1.

[0030] Next, actuation of the whole system is explained using the block diagram of the receiving set 2 about this invention, and a personal digital assistant 1, and drawing 7 using drawing 7.

[0031] In drawing 7, CPU30 is formed in a personal digital assistant 1. From this CPU30, a bus 29 is drawn and ROM27, RAM28, and a hard disk 32 are connected to a bus 29. Demand information is stored in ROM27 or RAM28 by choosing the information on desired from the database menu accumulated in a sending set 3. The downloaded information is stored in a hard disk 32. Moreover, the speech compression expanding circuit 35 which performs speech compression, such as an input key 33, a display 34, the input-and-output section 26 that output and input data between receiving sets 2, and ATRAC, and expanding processing is established in a personal digital assistant 1. Moreover, a display 21, a keyboard 22, a modem, or a terminal adopter 23 is connectable with a personal digital assistant 1 through I/O Port 39. Moreover, a power source is supplied to a personal digital assistant 1 from a dc-battery 31.

[0032] While receiving the data from a sending set 3, the input-and-output section 24 for sending the demand information from a personal digital assistant 1 is formed in a receiving set 2. Actuation of a receiving set 2 is controlled by the control section 57. Moreover, the power circuit 25 for supplying a power source to the dc-battery 31 of a personal digital assistant 1 is established in a receiving set 2. Furthermore, the wearing distinction section 40 for checking whether the receiving set 2 is equipped with the personal digital assistant 1 is formed in the receiving set 2. You may make it this wearing distinction section 40 detect with a mechanical switch whether the personal digital assistant 1 is put on the personal digital assistant applied part 9 of a receiving set 2, and may make it detect electrically whether the receiving set 2 and the personal digital assistant 1 are connected. Moreover, it communicates between the control section 57 of a receiving set 2, and CPU30 of a personal digital assistant 1, and you may make it check connection.

[0033] It has the retrieval section 60 in which a sending set 3 retrieves the information on desired from the storage section 59 using the storage section 59 in which mass data are stored, and the demand information from a user, and the input-and-output section 61 which output and input data among receive

sections 2. The actuation by the whole sending set 3 is controlled by the control section 62. Moreover, when a user is going to download data, the collating processing section 63 which performs collating for checking whether you are the user of normal, and the accounting section 42 which performs accounting corresponding to demand information are formed in a sending set 3. furthermore -- that the Dow-Jones load goes wrong **** -- etc. -- in order to carry out the fee of the condition disadvantageous to the caused user, accounting is prepared in the accounting cancellation section 42 of ** of a cancellation sake.

[0034] When a user chooses the information on desired from the database menu accumulated in the sending set 3 memorized by ROM27 or RAM28 using the input key 33 of a personal digital assistant 1, demand information is stored in RAM28. While a receiving set 2 is connected with a sending set 3 by the predetermined communication line through the input-and-output section 24 by equipping the applied part 9 of a receiving set 2 with this personal digital assistant 1, it connects with the bus 29 of a personal digital assistant 1 through the input-and-output section 26 of a personal digital assistant 1 through the same input-and-output section 24.

[0035] Thereby, the demand information stored in RAM28 is controlled by CPU30 connected to a bus 29, and is automatically transmitted to a sending set 3 through the input-and-output section 24.

[0036] In a sending set 3, the demand information is inputted from the input-and-output section 61, the data according to it are searched by the retrieval section 60 from the storage section 59 (mass hard disk), and the ****(ed) data transmit to a receiving set 2. Control of these whole is performed by the control section 62.

[0037] Moreover, since it is necessary to record two or more data on this storage section 59, it is desirable to carry out digital compression. Although various technique (trademark), such as ATRAC (Adaptive Transform Acoustic Coding), and ATRAC2, TwinVQ (Transform domain Weighted Interleave Vector Quantization), can be considered as the compression approach, it is good if it is the compression technique which can be thawed by the receiving set 2 side.

[0038] About the transmission protocol at the time of transmission, it may be packet-ized by TCP/IP (Transmission controlprotocol/internet protocol) which is general-purpose at an original protocol or the Internet, and data transmission of may be done.

[0039] This transmit information is outputted to the input-and-output section 26 of a personal digital assistant 1, while that of a receiving set 2 is received by the input-and-output section 24. It is constituted so that automatic battery charge may be performed to the dc-battery 31 which a power supply terminal 11 and the power supply terminal 13 by the side of a personal digital assistant 1 are connected by the power circuit 25 by the side of a receiving set 2, and is built in a personal digital assistant 1 with wearing to the receiving set 2 of a personal digital assistant 1 using the time amount required between reception of the information on desired from transmission of this demand information.

[0040] Decomposition processing of packet data is made, and the information inputted into a personal digital assistant 1 from the input-and-output section 26 is recorded on a hard disk 32 while required condensed information is extracted. Termination of download of the information on this request outputs a download termination display to the display 7 prepared in the receiving set 2, or the display 34 prepared in the personal digital assistant 1.

[0041] A user removes from a personal digital assistant 1 and a receiving set 2, after checking this download termination display, and he will be in the condition that it can carry freely.

[0042] Information to reproduce first from the information list currently recorded on the hard disk 32 by the input key 33 is chosen and determined to reproduce the information which the user downloaded.

Then, from a hard disk 32, the condensed information is read, and it is sent to a compression expansion circuit 35, and is elongated. This elongated data is changed into analog information by D/A converter 36, and is outputted from headphone 29.

[0043] When recording a sound signal from a microphone 38, from an input key 33, a sound recording signal is outputted, and the sound signal from a microphone 38 is digitized by A/D converter 37 from this, and it is further compressed by the compression expansion circuit 35 by the predetermined compression approach, and is recorded on a hard disk 32 through a bus 29. Thus, it is constituted so that a user can use it also as a memorandum **

machine.

[0044] Connection of a display 21, a keyboard 22, a modem, or a terminal adopter 23 is enabled through I/O Port 39 at the personal digital assistant 1. It also becomes possible by connecting a display to output the video data downloaded to the personal digital assistant 1, alphabetic data, etc. by the big screen. On this display 21, CRT, TFT liquid crystal, a plasma display, etc. can be considered, and if the liquid crystal display of a head mount mold is used, a print-out can be seen while a user moves.

[0045] It not only makes selection of the information to demand easy, but by connecting a keyboard 22, more complicated command input becomes possible. Since it also becomes easy from this for a user to input an utterance, information, etc. as text, if the User Information is uploaded to a sending set 3, the conference room as a place of request collection of a user or information interchange of users etc. can also be offered.

[0046] Furthermore, since a sending set 3 and immediate-data communication are not only attained, but other computers or a personal digital assistant 1, and communication are attained not using a receiving set 2 by connecting a modem or a terminal adopter 23, users' data exchange etc. can be performed easily. If a cellular phone etc. is used, demand information can be disseminated to a sending set 3 always anywhere, and it can just become on demand.

[0047] Moreover, it is also possible to perform easily to use a wireless connection controller for instead of [these], and to make wireless connection of a sending set 3 and the personal digital assistant 1.

[0048] Next, with reference to drawing 8, the processing flow of the gestalt of operation of this invention is explained. As mentioned above, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41). (step S40)

[0049] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42). Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established.

[0050] If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44). The wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and if wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45). With a receiving set 2, the Terminal ID and demand information are memorized for the record means 56 of memory 56 grade with it (step S54). By the delivery collating processing section 63, the count of a timer will perform collating processing for a signal to a sending set 3 side based on the terminal ID, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48).

[0051] Although the count of a timer is still continued at the time of a collating error, if it clears, according to the demand information corresponding to the terminal ID memorized by the memory 56 of a receiving set 2, predetermined data will be downloaded to a personal digital assistant 1 (step S55).

[0052] Although Terminal ID and demand information were memorized to the receiving set 2 with the gestalt of this operation here, it memorizes by the storage section 59 of a sending set 3, and you may make it manage. Also in the example mentioned later, it is the same.

[0053] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part 9 temporarily, in spite of performing accounting, there is a possibility of causing a condition

disadvantageous to the user of not offering download service to a user.

[0054] Then, the personal digital assistant 1 separated from the applied part, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the accounting cancellation section 58 prepared in (step S47) and a sending set 3.

[0055] That is, since it enables it to cancel accounting when download is not completed completely that the user has completed accounting under a certain situation, it has the effectiveness according to rank that a user can receive service in comfort.

[0056] When a personal digital assistant 1 is removed from the applied part 9 of a receiving set 2 during download, he is trying to download data again in an above-mentioned example, but it is good even if it downloads from a continuation to the already downloaded data. Drawing 9 is such an example.

[0057] As mentioned above, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41). (step S40)

[0058] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42). Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established. If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44).

[0059] If the wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45).

[0060] Download is continued to a receiving set 2, writing the data received at the same time a wearing discharge signal occurs with a receiving set 2 with it in the storage section 56 (step S46). It is desirable to make it data to memorize Terminal ID as a header etc. at this time, and to enable it to perform matching with data and Terminal ID.

[0061] The count of a timer will perform collating processing to the terminal ID by the collating processing section 63 prepared in a sending set 3, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48). Although the count of a timer is still continued at the time of a collating error, the data of a from are downloaded to a personal digital assistant 1 while having corresponded to the terminal ID memorized by the storage section 56 of a receiving set 2, when cleared (step S49).

[0062] It is desirable, when the increase in efficiency of download is attained as download to a personal digital assistant 1 is also performed while the download to the storage section 56 of a receiving set is still continuing and continuing the download, when re-equipped here.

[0063] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part temporarily, in spite of performing accounting, there is a possibility of causing a condition disadvantageous to the user of not offering download service to a user.

[0064] Then, the personal digital assistant 1 separated from the applied part 9, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the accounting cancellation section 58 prepared in (step S47) and a sending set 3.

[0065] In addition, in the above-mentioned example, although the receiving set 2 has always

downloaded data from the sending set 3, as shown in drawing 10, two or more receiving set 2A, 2B, and -- are connected with the sending set 3. And the newest information, the information that request frequency is high, etc. are periodically sent to each receiving set 2A, 2B, 2C, and -- from a sending set 3, and it is possible to make it download to each receiving set 2A, 2B, 2C, and --. Each receiving set 2A, 2B, 2C, and the data sent to -- are stored in each receiving set 2A, 2B, 2C, and the storage section 56 of -

[0066] With such a configuration, receiving set 2A, 2B, 2C, and the same data as -- are stored. in this case, for example, receiving set 2A -- a down -- when a funnel goes wrong, receiving set 2A can download surrounding receiving set 2B, 2C, and the data from --, without downloading data from a sending set 3.

[0067] Drawing 11 is the example which always did not download data from a sending set 3 in this way when download went wrong by receiving set 2A, but downloaded data from surrounding receiving set 2B, 2C, and -- when desired data were in surrounding receiving set 2B, 2C, and --.

[0068] In the flow of drawing 10, in order to transmit demand information to a sending set 3 through a receiving set 2 automatically by being equipped with a personal digital assistant 1 to a receiving set 2, the receiving set 2 is equipped with the wearing distinction section 40 of a personal digital assistant 1. The demand information which the user recorded on the terminal ID which a personal digital assistant (step S40) 1 has as wearing of a personal digital assistant 1 is checked by the wearing distinction section 40, and the personal digital assistant 1 beforehand is transmitted to a sending set 3 through a receiving set 2 (step S41).

[0069] In a sending set 3, accounting which balanced the demand information to the terminal ID by the accounting section 42 is performed (step S42).

[0070] Here, Terminal ID may not be registered, the warning may be displayed on the display with which the balance serves as an accounting error by insufficient reasons, sends out the signal according to it to a receiving set 2, and equips a receiving set 2 or a personal digital assistant 1, or an output means which outputs the beep sound according to it may be established. If accounting is completed normally, transmission is started from a sending set 3 to the terminal ID, and a personal digital assistant 1 will be in a download initiation condition (step S44).

[0071] The wearing condition is continuously monitored by the wearing distinction section 40 (step S40) during this download, and if wearing discharge is accidentally carried out while a user downloads, the timer by which it is transmitted to a transmitting side and that terminal ID and a wearing discharge signal are formed in a transmitting side starts (step S45). With a receiving set 2, the Terminal ID and demand information are memorized for the record means 56 of memory 56 grade with it (step S54). By the delivery collating processing section 63, the count of a timer will perform collating processing for a signal to a sending set 3 side based on the terminal ID, if it is re-equipped with a personal digital assistant 1 in predetermined time (step S48).

[0072] Next, although the count of a timer is still continued at the time of a collating error Demand information is transmitted to each receiving set 2 connected to mutual as shows the demand information corresponding to the terminal ID memorized by the storage section 56 of a receiving set 2 if the collating is cleared to drawing 11. The receiving set 2 considered for communication link time amount to be the shortest out of other receiving sets 2 with which the data equivalent to demand information are memorized is selected, and download is started from the receiving set 2. The factor of a distance geographical as criteria of this selection, the traffic condition of a circuit, the size of a circuit, etc. can be considered (step S53).

[0073] Although what (step S51) download is certainly completed for by such processing can be considered, when a personal digital assistant 1 separated and leaves as it was from an applied part temporarily, in spite of performing accounting, there is a possibility of causing a condition disadvantageous to the user of not offering download service to a user.

[0074] Then, the personal digital assistant 1 separated from the applied part 9, and when predetermined time progress was carried out, it was made to perform processing which prevents accounting by a user's operation mistake as cancels the accounting which the user performed to the information by the

accounting cancellation section 58 prepared in (step S47) and a sending set 3.
[0075]

[Translation done.]

*** NOTICES ***

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The terminal downloaded to the record medium in which the information which outputs the information specified by a user as demand information, and is inputted according to it is built, the above-mentioned terminal, and I/O are possible. The receiving set outputted to the above-mentioned terminal while the above-mentioned user inputs the demand information specified at the above-mentioned terminal, transmits the demand information at least and receives the information according to it, the above-mentioned receiving set, and transmission and reception are possible. The sending set which transmits the information to the above-mentioned receiving set while two or more information is accumulated in a mass record medium, receiving the above-mentioned demand information that it is inputted by the above-mentioned user, through the above-mentioned receiving set and retrieving the information over this demand information, An accounting means by which the information according to the above-mentioned demand information was transmitted to the above-mentioned receiving set only when accounting according to the above-mentioned demand information prepared in the above-mentioned sending set was performed to the above-mentioned user and the accounting was processed normally, A download interruption distinction means to distinguish that this download was interrupted while the information transmitted from the above-mentioned sending set corresponding to the above-mentioned demand information prepared in the above-mentioned receiving set downloaded to the above-mentioned terminal through the above-mentioned receiving set, After it was distinguished that the above-mentioned download was interrupted by the above-mentioned download interruption distinction means formed in the above-mentioned sending set, An information distribution system equipped with an accounting cancellation means to cancel the accounting to the above-mentioned user to whom it was carried out by the above-mentioned accounting means when predetermined time progress was carried out.

[Claim 2] The terminal downloaded to the record medium in which the information which outputs the information specified by a user as demand information, and is inputted according to it is built, the above-mentioned terminal, and I/O are possible. The receiving set outputted to the above-mentioned terminal while the above-mentioned user inputs the demand information specified at the above-mentioned terminal, transmits the demand information at least and receives the information according to it, the above-mentioned receiving set, and transmission and reception are possible. The sending set which transmits the information to the above-mentioned receiving set while two or more information is accumulated in a mass record medium, receiving the above-mentioned demand information that it is inputted by the above-mentioned user, through the above-mentioned receiving set and retrieving the information over this demand information, An accounting means by which the information according to the above-mentioned demand information was transmitted to the above-mentioned receiving set only when accounting according to the above-mentioned demand information prepared in the above-mentioned sending set was performed to the above-mentioned user and the accounting was processed normally, A download interruption distinction means to distinguish that this download was interrupted while the information transmitted from the above-mentioned sending set corresponding to the above-